Amendments to the Claims

The following claim listing reflects the status of the claims pending in this application.

1. **(Previously Presented)** A sighting device for a radiometer for visibly marking a measuring surface, the temperature of which is measured by said radiometer, comprising:

a light source for emitting a visible light beam marking said measuring surface; and

a piezoactuator for controlling a direction of said light beam.

2. **(Original)** The sighting device according to claim 1, wherein said piezoactuator is a piezo-bending actuator.

3. **(Currently Amended)** The sighting device according to claim 1, wherein the sighting device further comprises a segmented mirror for dividing the light beam emitted by said light source into a plurality of ~~different sighting~~ beams ~~according to a time-division multiplex method~~.

4. **(Currently Amended)** The sighting device according to claim 1, wherein said light source is a laser; and wherein the sighting device further comprises a first mirror ~~being~~ attached to [[on]] said piezoactuator, wherein the first mirror is adapted to ~~which can~~ be moved by said piezoactuator and wherein the first mirror deviates the ~~laser~~ light beam to a segmented mirror, wherein each segment of said segmented mirror ~~deflects~~ reflects said ~~laser~~ light beam ~~for marking of~~ to said measuring surface.

5. **(Currently Amended)** The sighting device according to claim 3, wherein said segmented mirror comprises central segments and outer segments, wherein said central segments of said segmented mirror are larger than said outer segments.

6. (**Currently Amended**) The sighting device according to claim 1, wherein the sighting device further comprises an X-actuator and a Y-actuator for controlling said direction of said light beam in two dimensions on said measuring surface.

7. (**Original**) The sighting device according to claim 1, wherein the light source is attached to said actuator.

8. (**Currently Amended**) The sighting device according to claim 1, wherein said light source is rotatably suspended and said light source comprises a guide mechanism into which ~~one end of~~ said piezoactuator is rotatably mounted ~~attached such that said piezoactuator can rotate said light source~~.

9. (**Currently Amended**) The sighting device according to claim 1, wherein said light source is rotatably suspended and said light source is connected ~~, via wires,~~ with ~~one end of~~ said piezoactuator such that said actuator can rotate said light source.

10. (**Currently Amended**) The sighting device according to claim 1, wherein said piezoactuator comprises [[is]] at least one ~~partially~~ metallized part; said light beam falling upon said metallized part of said ~~actuator~~ piezoactuator ~~so that~~ wherein said piezoactuator changes said direction of said light beam in response to a voltage applied to ~~same~~ said piezoactuator.

11. (**Original**) The sighting device according to claim 1, wherein the sighting device changes said direction of said light beam stepwise so that said light beam marks said measuring surface with points.

12. (**Currently Amended**) A sighting device for a radiometer for visibly marking a measuring surface, the temperature of which is measured by said radiometer, comprising:

a light source for emitting a visible light beam marking said measuring surface; and

an actuator for controlling a direction of said light beam; said actuator comprising a coil mounted to a means for varying the direction of said light beam; and a magnet ~~being located in an interior of said coil so that,~~ positioned to move said coil in response to a current flow through said coil wherein said means varies the direction of said light beam~~, said coil presses said magnet out of said coil or pulls it into said coil~~.

13. (**Previously Presented**) The sighting device according to claim 12, wherein the sighting device comprises a segmented mirror for dividing the light beam emitted by said light source into different sighting beams according to a time-division multiplex method.

14. (**Currently Amended**) The sighting device according to claim 12, wherein said light source is a laser; wherein the means for varying the direction of said light beam comprises a first mirror ~~being attached on said actuator which can be moved~~ movable by said actuator ~~and deviates~~ to deviate said ~~laser~~ light beam to a segmented mirror, wherein each segment of said segmented mirror ~~deflects~~ reflects said ~~laser~~ light beam ~~for marking of~~ to said measuring surface.

15. (**Currently Amended**) The sighting device according to claim 13, wherein said segmented mirror comprises central segments and outer segments, wherein said central segments of the segmented mirror are larger than said outer segments.

16. (**Currently Amended**) The sighting device according to claim 12, wherein said actuator ~~the sighting device~~ comprises an X-actuator and a Y-actuator for controlling a position of said light beam in two dimensions on said measuring surface.

17. (**Original**) The sighting device according to claim 12, wherein said light source is attached to said actuator.

18. (**Currently Amended**) The sighting device according to claim 12, wherein said light source is rotatably suspended and said light source comprises a guide mechanism into which ~~one end of~~ said actuator is rotatably mounted ~~attached such that said piezoactuator can rotate said light source~~.

19. (**Original**) The sighting device according to claim 12, wherein the sighting device changes said direction of said light beam stepwise so that said light beam marks said measuring surface with points.

20. (**Currently Amended**) The sighting device according to claim 19, wherein said light beam is guided in a circular pattern at a constant angular velocity and that the stepwise change of said direction of said light beam is accomplished by a sectorized mirror comprising three concave sectors.

21. (**Currently Amended**) A sighting device for a radiometer for visibly marking a measuring surface, a temperature of which is measured by said radiometer, comprising:

at least three light sources, each of which emits a visible light beam[[;]] ~~and~~, said light sources being arranged such that said visible light beams generate a plurality of ~~bright~~ points at an edge of said measuring surface; and

a control circuit for switching said light sources on and off[[;]] , said control circuit ~~being connected to each of said light sources and being constructed~~ adapted such that at most two light sources are ~~switched~~ on simultaneously.

22. (**Currently Amended**) The sighting device according to claim 21, wherein said sighting device further comprises means for providing said plurality of points ~~are illuminated~~ in a predefined order at a frequency of up to 20 Hz so that a user has ~~the~~ a visual impression that a point ~~would travel~~ travels around said measuring surface; said frequency being in a monotonous relationship with ~~the~~ an absolute value of ~~the~~ a time derivative of said temperature measured by said radiometer.

23. (**Currently Amended**) The sighting device according to claim 21, wherein said plurality of points ~~are~~ is illuminated by said each light beam at a frequency of more than 25 Hz so that ~~the~~ a human eye perceives the marking as a standing image.

24. (**Currently Amended**) The sighting device according to claim 21, wherein the sighting device further comprises means for illuminating at least one of the light sources to indicate

~~a subgroup of all points is illuminated, said subgroup being associated with~~ a measured state.

25. (**Currently Amended**) The sighting device according to claim 21, wherein the sighting device further comprises means for providing a first subgroup of ~~all~~ said plurality of points ~~is illuminated~~ in a predefined order at a frequency of up to 20 Hz and means for providing ~~that~~ a second subgroup of ~~all~~ said plurality of points ~~is illuminated~~ at a frequency of up to 25 Hz; said first and second subgroup displaying measured states.

26. (**Original**) The sighting device according to claim 21, wherein said control circuit comprises a switching circuit including a switching element for each light source; each light source being connected to a switching element and all switching elements being connected to a controller, wherein said controller controls the brightness of said light source connected therewith.

27. (**Currently Amended**) The sighting device according to claim 26, wherein said control circuit further comprises a digital/analog converter and a processor; said processor being connected to said switching circuit for controlling ~~the same~~ said switching circuit and for switching on ~~a light source~~ one of said light sources; said processor being connected to said digital/analog converter and supplying a digital target value to said digital/analog converter; said digital/analog converter converting said digital target value into an analog target value supplied by said digital/analog converter to said controller, wherein said controller is ~~moreover~~ supplied with an actual value from a photodiode; said photodiode measuring said brightness of ~~said switched on light source~~ one of said light sources; and said controller supplying ~~its~~ an output signal to ~~said switched on light source~~ said one of said light sources via said switching circuit.

28. (**Currently Amended**) A sighting device for a radiometer for visibly marking a measuring surface, the temperature of which is measured by said radiometer, the sighting device comprising:

a light source for emitting a visible light beam ~~marking said measuring surface; said light source guiding said light beam at a constant angular velocity;~~ and

~~said sighting device comprising~~ a sectorized mirror upon which said light beam falls[[;]], said sectorized mirror causing a stepwise change of [[a]]direction of said light beam ~~so that said light beam~~ wherein a plurality of reflected light beams marks said measuring surface ~~with points~~.

29. (**Currently Amended**) The sighting device according to claim 28, wherein said sectorized mirror comprises at least three concave sectors.

30. (**Original**) A sighting device for a radiometer for visibly marking a measuring surface, said temperature of which is measured by said radiometer, comprising:

a light source mounted in a housing;

an individual receptacle having a hollow space being larger than the outer dimensions of a housing of said light source and receiving said housing of said light source; and

a fixation fixing said housing of said light source in said hollow space; said fixation being formed such that an optical axis of said light source extends parallel to a mechanical axis of said individual receptacle.

31. (**Original**) The sighting device according to claim 30, wherein the outer shape of each individual receptacle is conical.

32. (**Currently Amended**) The sighting device according to claim 30, wherein the sighting device further comprises ~~moreover~~ an overall receptacle ~~is provided in the sighting device; said overall receptacle again~~ having a hollow space for each individual receptacle, wherein an inner surface area of each hollow space of said overall receptacle has a positive fit with an outer shape of said individual receptacle when said individual receptacle is positioned ~~pushed~~ into said hollow space.

33. (**Currently Amended**) A sighting device for a radiometer for visibly marking a measuring surface, a temperature of which is measured by said radiometer, comprising:

a plurality of light sources emitting visible light for marking the measuring surface; and

a plurality of individual receptacles; one individual receptacle being provided for fixedly receiving each light source, wherein an optical axis of each light source is aligned parallel to a mechanical axis of said corresponding individual receptacle.

34. (**Original**) The sighting device according to claim 33, wherein an outer shape of each individual receptacle is conical.

35. (**Currently Amended**) The sighting device according to claim 33, wherein ~~moreover~~ the sighting device further comprises an overall receptacle ~~is provided in the sighting device~~; said overall receptacle ~~again~~ having a hollow space for each individual receptacle, wherein an inner surface area of each hollow space of said overall receptacle has a positive fit with an outer shape of said individual receptacle when said individual receptacle is positioned ~~pushed~~ into said hollow space.

36. (**Currently Amended**) A radiometer, comprising:

an IR detector;

a lens being arranged with respect to said IR detector such that the lens focuses IR radiation from a measuring surface to said detector; and

a light source emitting visible light for marking said measuring surface; said marking providing a visible indication based upon a reading of said IR detector.

37. (**Currently Amended**) The radiometer according to claim 36, wherein an optical axis is defined by said IR detector and said lens, and wherein a ~~said~~ beam path of said visible light emitted by said light source ~~extending~~ extends towards said optical axis ~~without~~

~~necessarily intersecting same~~, said radiometer further comprising ~~and being deviated by~~ a deviating means in the proximity of said optical axis, said deviating means adapted to deviate ~~so that~~ said beam path of said visible light ~~extends from there along said optical axis~~.

38. (**Currently Amended**) The radiometer according to claim 37, wherein said deviating means comprises a means for ~~is formed such that said deviating means deflects~~ deflecting light beams encountering said deviating means at different locations about different angles.

39. (**Currently Amended**) The radiometer according to claim 37, wherein said deviating means comprises ~~is formed by~~ a prism.

40. (**Original**) The radiometer according to claim 37, wherein said deviating means is formed by a mirror.

41. (**Original**) The radiometer according to claim 37, wherein said deviating means comprises a hole about said optical axis through which said IR radiation can fall upon said detector.

42. (**Original**) The radiometer according to claim 37, wherein a second lens for visible light is arranged between said light source and said deviating means.

43. (**Original**) The radiometer according to claim 36, wherein said lens comprises a bore where said visible light passes said lens.

44. (**Currently Amended**) A radiometer [[,]] comprising:

an IR detector;

a light source emitting visible light for marking a measuring surface; and

a lens ~~being~~ arranged with respect to said IR detector, wherein said IR detector and said lens define an optical axis and wherein ~~such that it~~ the lens focuses IR radiation from [[a]] the measuring surface to said detector;

said lens being inclined versus said optical axis so that ~~the~~ a first reflected portion of said IR radiation encountering ~~the~~ an outer side of said lens is smaller than a second reflected portion of the light of said light source encountering said outer side of said lens.

45. (**Original**) A method for a radiometer of visibly marking a measuring surface, comprising:

emitting a visible light beam by a light source for marking said measuring surface; and

controlling a direction of said light beam by means of a piezoactuator.

46. (**Currently Amended**) A method for a radiometer of visibly marking a measuring surface, comprising:

emitting a visible light beam by a light source for marking said measuring surface; and

controlling said direction of said light beam by means of an actuator, wherein said actuator comprises a coil mounted to a means for varying the direction of said light beam; and a magnet ~~being located in an interior of said coil so that,~~ positioned to move said coil in response to a current flow through said coil wherein said means varies the direction of said light beam ~~, said coil presses said magnet out of said coil or pulls it into said coil.~~

47. (**Currently Amended**) A method for a radiometer of visibly marking a measuring surface, the method comprising:

emitting visible light beams by at least three light sources for marking said measuring surface[[;]], each light source emitting one light beam; and

switching said light sources on and off[[;]], at most two light sources being switched on simultaneously.

48. (**Currently Amended**) A method for a radiometer of visibly marking a measuring surface, the method comprising:

emitting a visible light beam by a light source for marking said measuring surface;

guiding said light beam in a circular pattern at a constant angular velocity; and

changing a direction of said light beam stepwise by a sectorized mirror.

49. (**Currently Amended**) A method for a radiometer for adjusting a light source for visibly marking a measuring surface, the method comprising

introducing a housing of a light source into an individual receptacle;

aligning an optical axis of said light source parallel to a mechanical axis of said individual receptacle; and

fixing said housing of said light source within said individual receptacle.

50. (**Currently Amended**) A method for a radiometer for adjusting a light source for visibly marking a measuring surface of said radiometer, the method comprising:

introducing each light source of a plurality of light sources outputting visible light to mark said measuring surface into an individual receptacle;

aligning an optical axis of each said light sources parallel to a mechanical axis of said corresponding individual receptacle

assembling said light sources together with said receptacles into a sighting device.

51. (**Currently Amended**) A method for a radiometer [[,]] comprising:

focusing IR radiation emitted by a measuring surface by means of a lens on an IR detector;

determining a temperature of said measuring surface on the basis of a signal supplied by said IR detector;

marking said measuring surface by visible light; and

indicating with said marking at least one of a measured state and a change of temperature based upon said determined temperature.

52. (**Currently Amended**) A method for a radiometer[[,]] comprising:

focusing IR radiation emitted by a measuring surface by means of a lens on an IR detector[[;]], said lens being inclined versus an optical axis;

determining a temperature of said measuring surface on the basis of a signal supplied by said IR detector;

emitting visible light onto an outer surface of said lens and reflecting at least some of said visible light from said outer surface upon the measuring surface ~~so that a reflected portion of said IR radiation encountering an outer side of said lens is smaller than said reflected portion of said visible light of said light source encountering said outer side of said lens~~; and

marking said measuring surface [[by]] with said visible light reflected by said outer surface of said lens.